

# pTNMAX (general vector)

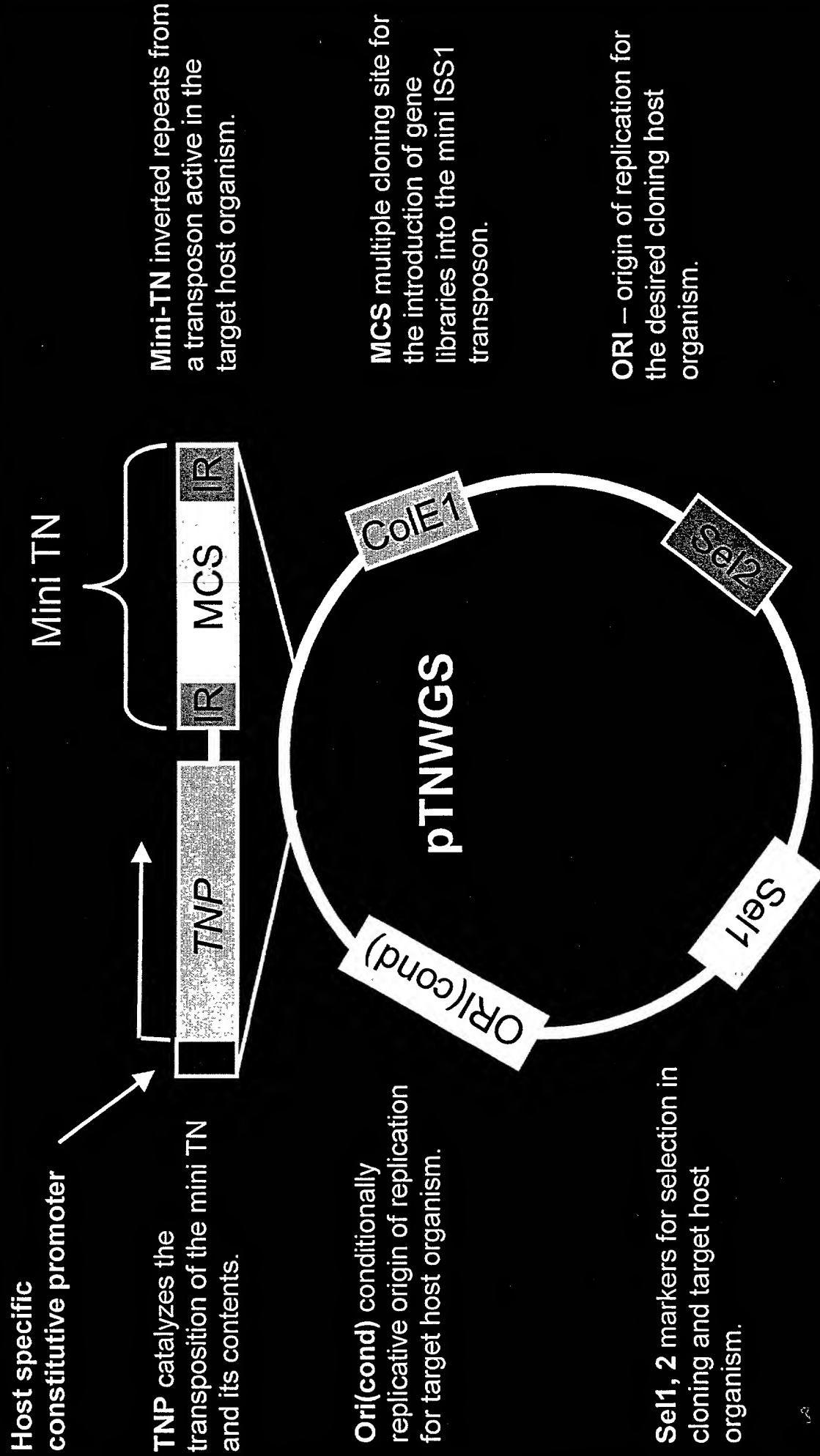


Figure 1 A

# pWGS:5

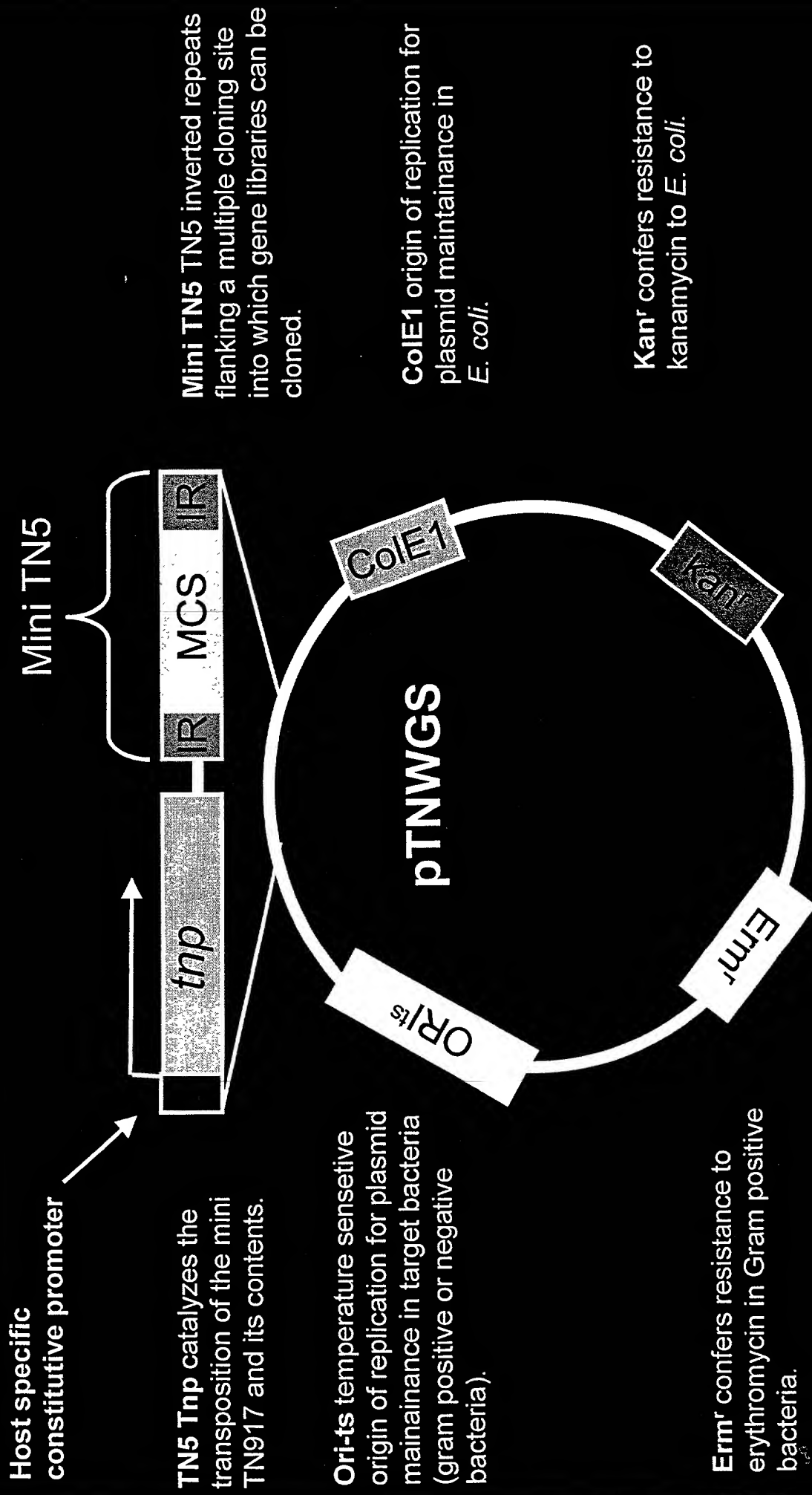


Figure 1B

# pWGS:917

## Host specific

**promoter – nisa**  
promoter for lactic acid bacteria.

**917 TspR TspA** catalyzes the transposition of the mini 917 and its contents (transposase/resolvase)

Mini TN917

**MCS** multiple cloning site for the introduction of gene libraries into the mini TN917 transposon.

**PG+** temperature sensitive origin of replication for plasmid maintenance in Gram positive bacteria.

**ColE1** origin of replication for plasmid maintenance in *E. coli*.

**Erm<sup>r</sup>** confers resistance to erythromycin in Gram positive bacteria.

**Kan<sup>r</sup>** confers resistance to kanamycin to *E. coli*.

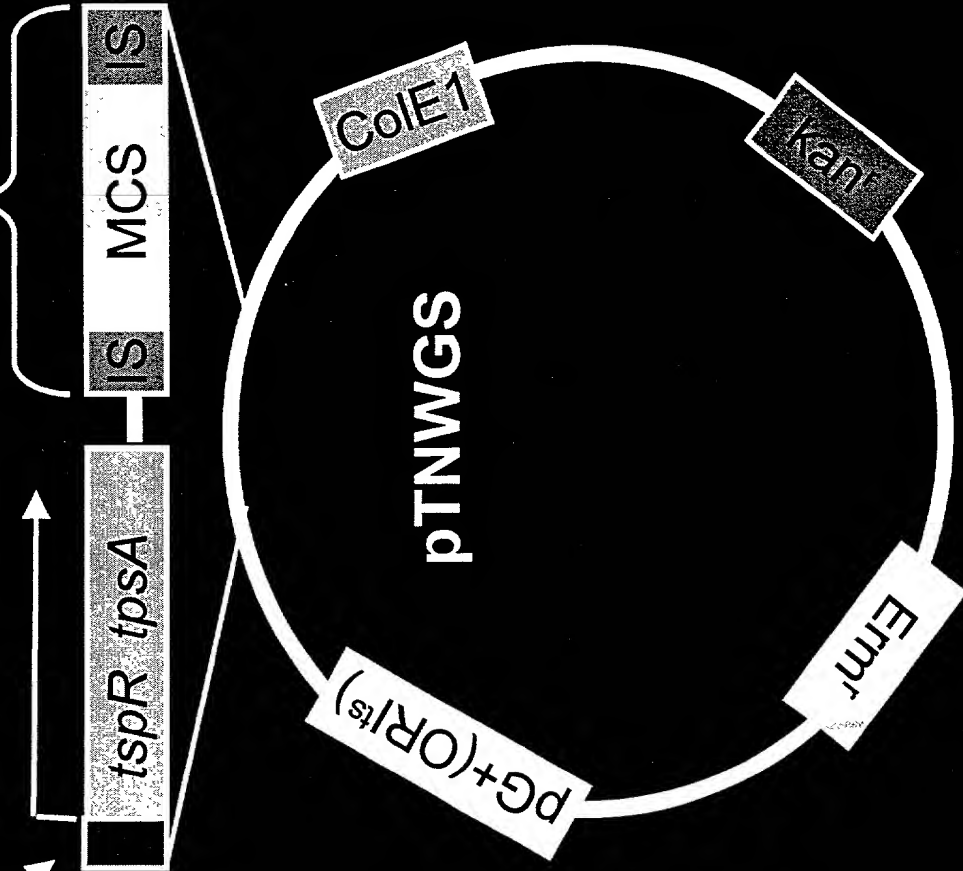
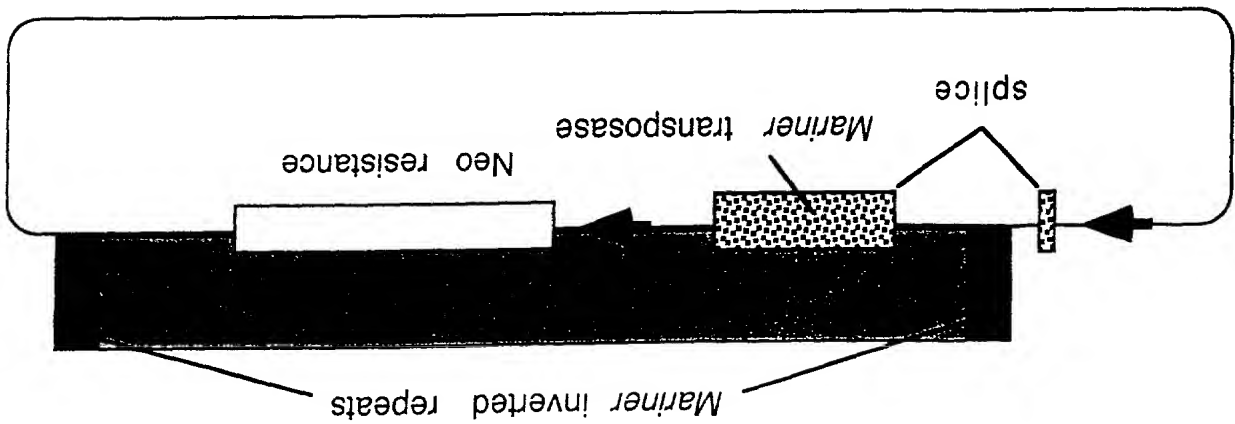


Figure 1C

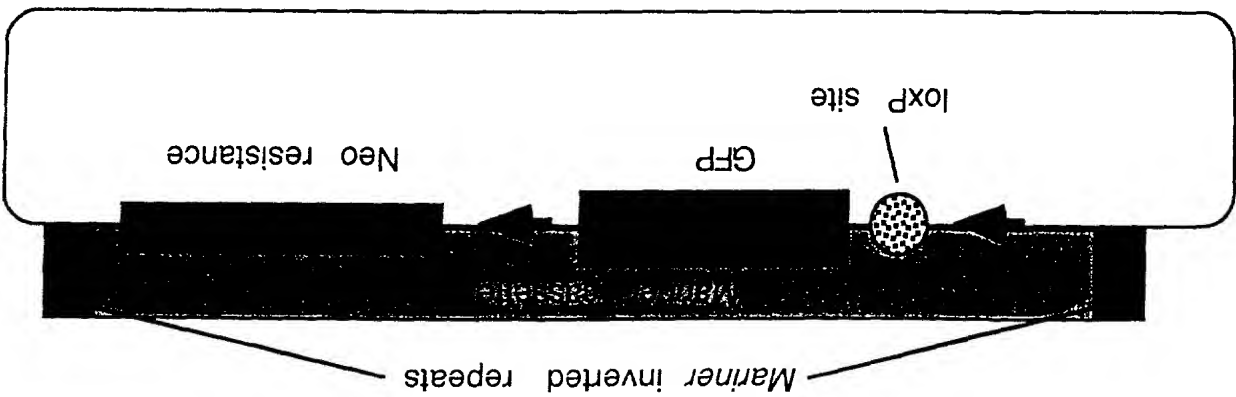
Figure 2

Efficient integration into mammalian cells using evolved *Mariner* transposons



B

*Mariner* transposon for inserting loxP sites at loci with desirable expression properties





# Shuffling of Genomes *In Vitro*: Formation of transposomes

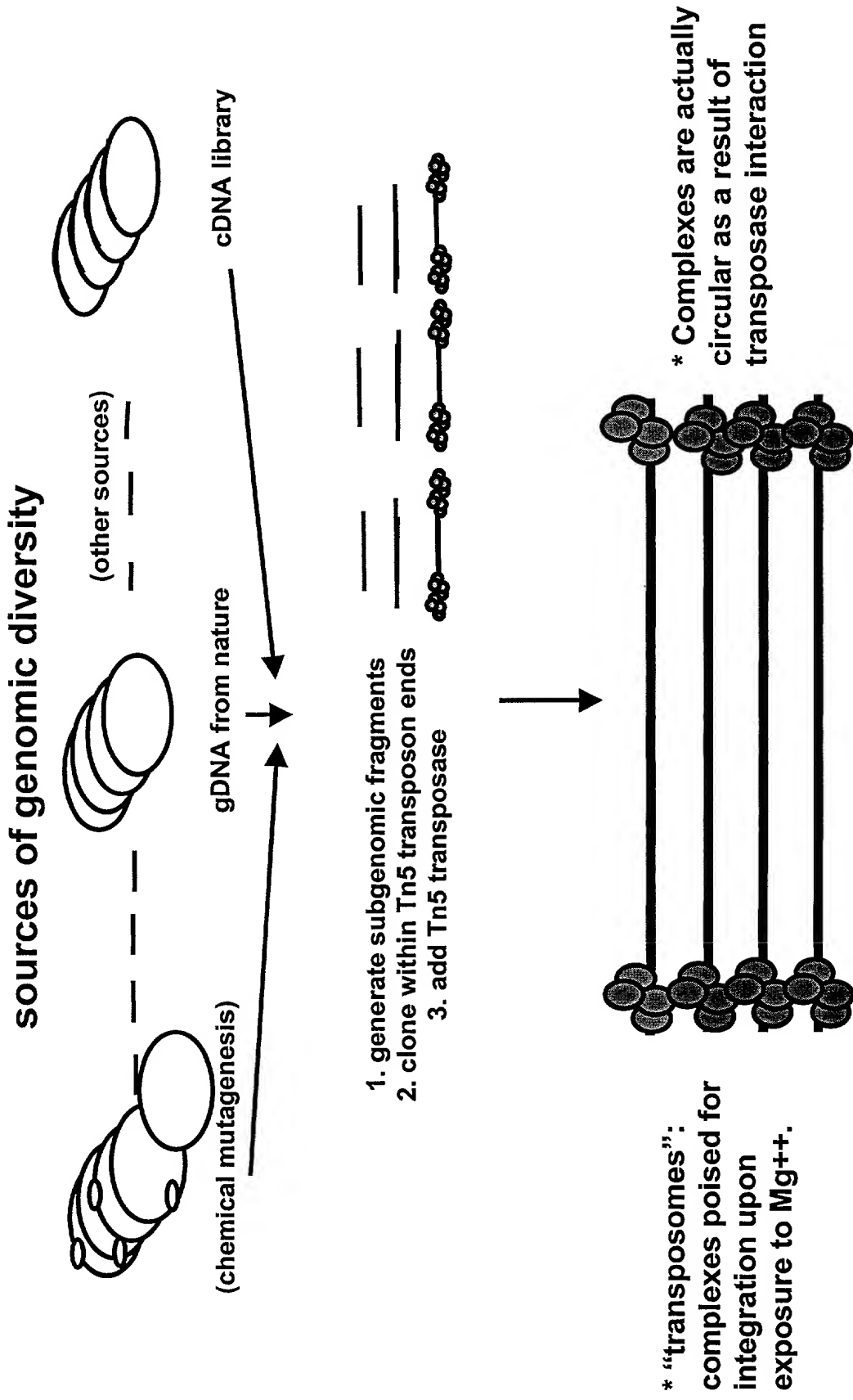


Figure 4A

# Shuffling of Genomes *In Vitro*:

Breeding multiple donor genomes with a single acceptor genome

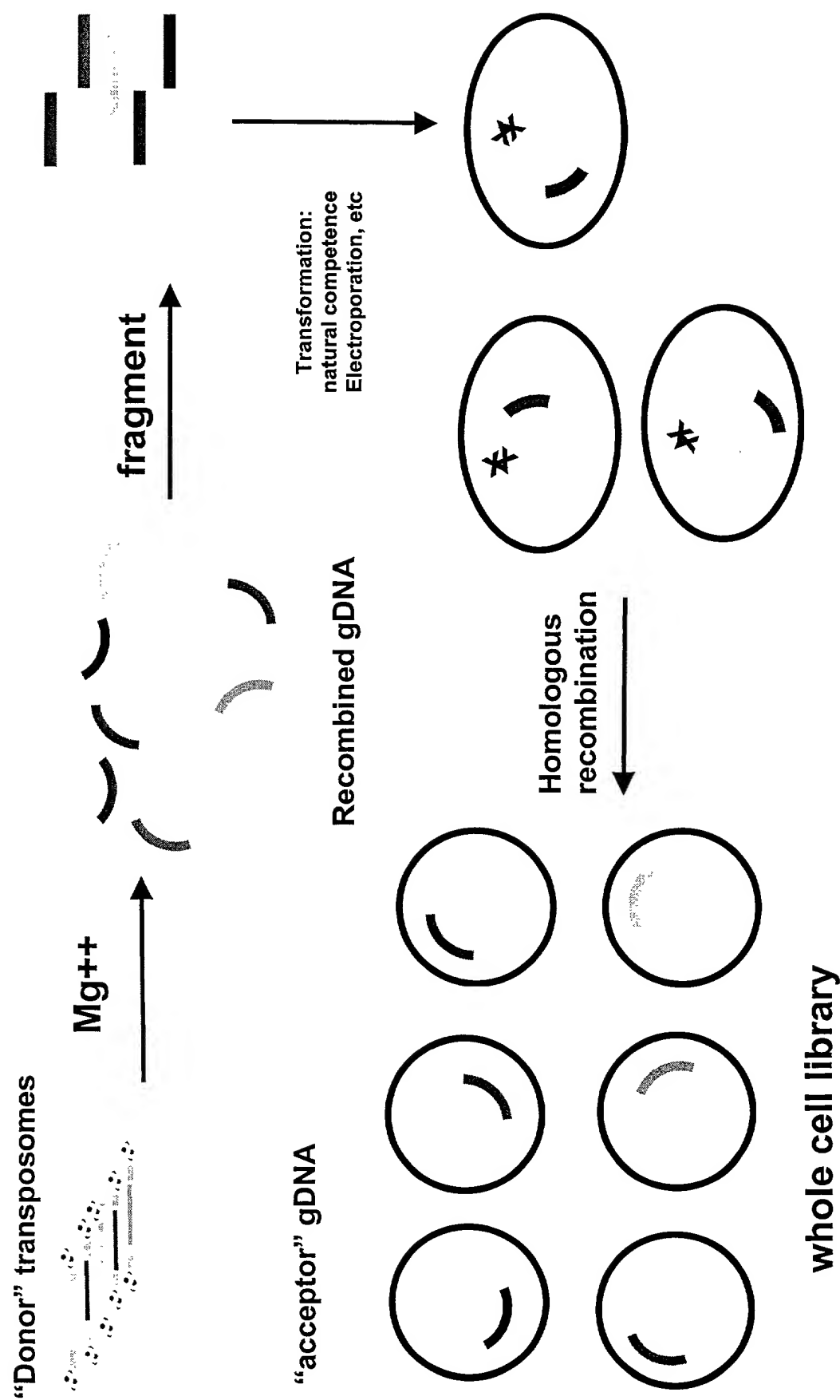


Figure 4B

# Shuffling of Genomes *In Vitro*:

Breeding multiple donor genomes with multiple acceptor genomes

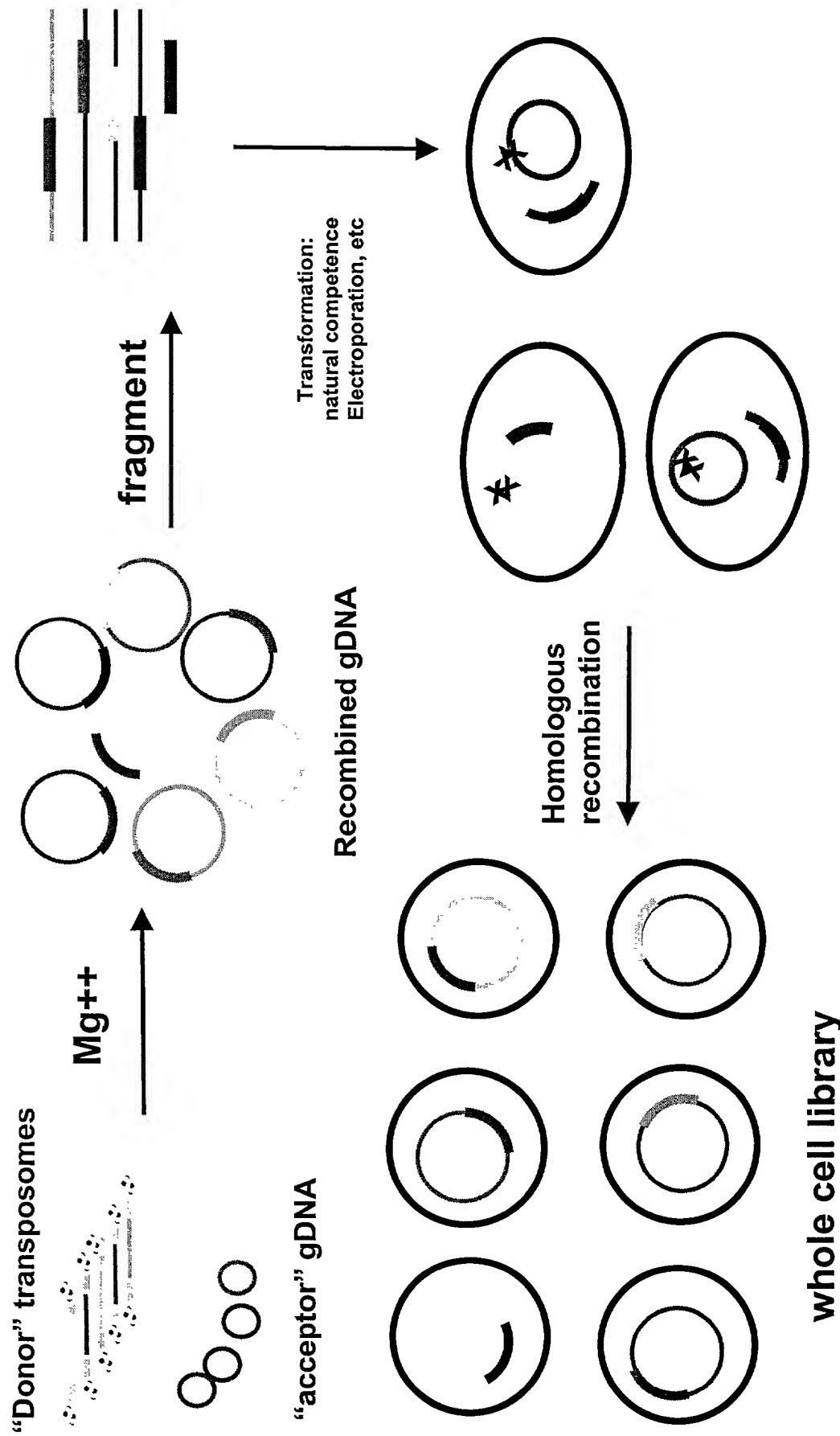


Figure 4C



## Shuffling of Genomes *In Vitro*:

Split pool recursive *in vitro* recombination of multiple genomes

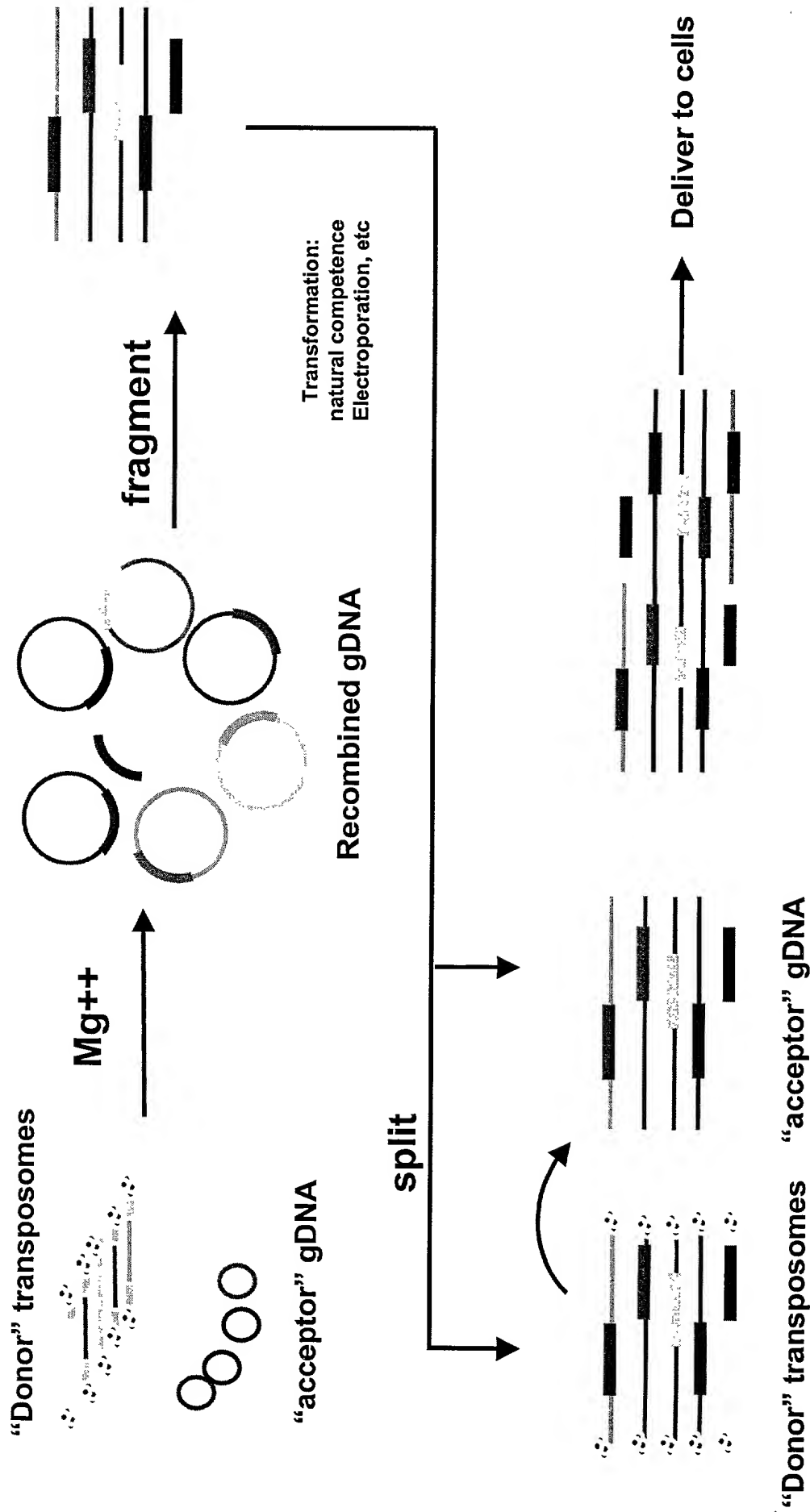


Figure 4D